

WHAT IS CLAIMED IS:

Q Patent Claims

1. Rotary slide valve (1) for power-assisted steering systems of motor vehicles, with a first valve element which is connected fixedly in terms of rotation to a valve input member (4), and with a second valve element which is connected fixedly in terms of rotation to a valve output member (5), the first valve element being connected to the valve output member (5) via a torsion-bar spring (9) and by a backlash coupling, the two valve elements being arranged in a valve housing so as to be movable coaxially one in the other and being rotatable relative to one another at most by the amount of the rotary travel of the backlash coupling, and the radially outer valve element having inner and the radially inner valve element outer longitudinal control grooves (6, 7) which are limited at least partially in their axial length and which may also be designed conically for purposes of adjustment of characteristic curves, said grooves cooperating with one another in order to control a pressure medium to and from two working spaces of a servomotor, characterized in that the first valve element is connected to the valve output member (5) via a connecting element (10) and has at least one cut (15) in a region (14) between a connection region (12) and a control region (13)
2. The rotary slide valve (1) as claimed in claim 1, characterized in that the connection of the two parts is made positively and nonpositively, for example the connecting element (10) or the valve output member (5) has a boss contour (11).

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3. The rotary slide valve (1) as claimed in claim 1, characterized in that the region (14) is torsionally rigid and flexible.
4. The rotary slide valve (1) as claimed in claim 1, characterized in that the cut (15) is continuous.
5. The rotary slide valve (1) as claimed in claim 1, characterized in that the cut (15) is designed in the form of a groove.
6. The rotary slide valve (1) as claimed in claim 1, characterized in that the region (14) is designed as a hollow shaft.
7. The rotary slide valve (1) as claimed in claim 1, characterized in that the region (14) is designed as a solid shaft.
8. The rotary slide valve (1) as claimed in claim 1, characterized in that the region (12) is designed as a polygonal profile.
9. The rotary slide valve (1) as claimed in claim 1, characterized in that the cuts (15) are made by means of high-energy beam cutting, plasma cutting, erosion cutting, punching, grinding or milling.
10. The rotary slide valve (1) as claimed in claim 1, characterized in that the connecting element (10) is produced at least in one piece with the control bush (3).

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